

IN THE CLAIMS

1. (Currently Amended) A thermal interface composition, comprising:
at least two siloxane-based compounds, wherein each compound has a different solubility parameter in order to induce a phase separation between the at least two siloxane-based compounds,
at least one inorganic micro-filler material, wherein the filler is coated with hexamethyldisilazane, and
at least one thermally conductive filler material.
2. (Previously Presented) The thermal interface composition of claim 1, wherein at least one of the siloxane-based compounds comprises a polysiloxane compound.
3. (Previously Presented) The thermal interface composition of claim 1, wherein at least one of the siloxane-based compounds comprises a hydride-functional siloxane compound.
4. (Previously Presented) The thermal interface composition of claim 2, wherein the polysiloxane compound comprises a substituted polysiloxane compound.
5. (Previously Presented) The thermal interface composition of claim 4, wherein the polysiloxane compound is substituted by a functional group comprising an alkyl group, an aromatic group, a halide group or combinations thereof.
6. (Previously Presented) The thermal interface composition of claim 4, wherein the substituted polysiloxane compound comprises an alkenyl-terminated polyalkylsiloxane.
7. (Previously Presented) The thermal interface composition of claim 6, wherein the alkenyl-terminated polyalkylsiloxane comprises a vinyl group.
8. (Previously Presented) The thermal interface composition of claim 7, wherein the alkenyl-terminated polyalkylsiloxane further comprises a methyl group.

9. (Previously Presented) The thermal interface composition of claim 5, wherein the polysiloxane compound comprises vinylmethylcyclotetrasiloxane, polytetradecylmethylsiloxane, polyoctylmethylsiloxane, decylmethylsiloxane, butylated aryloxy-propylmethylsiloxane, octadecylmethylsiloxane, dimethylsiloxane or combinations thereof.
10. (Previously Presented) The thermal interface composition of claim 3, wherein the hydride-functional siloxane comprises methylhydrosiloxane.
11. (Previously Presented) The thermal interface composition of claim 1, wherein the inorganic micro-filler material comprises silicon dioxide.
12. (Previously Presented) The thermal interface composition of claim 1, wherein the inorganic micro-filler material comprises a powder.
13. (Previously Presented) The thermal interface composition of claim 1, wherein the inorganic micro-filler material comprises a flake.
14. (Previously Presented) The thermal interface composition of claim 1, wherein the thermally conductive filler material comprises a transition metal.
15. (Previously Presented) The thermal interface composition of claim 1, wherein the thermally conductive filler material comprises boron.
16. (Previously Presented) The thermal interface composition of claim 14, wherein the transition metal comprises copper.
17. (Previously Presented) The thermal interface composition of claim 15, wherein the thermally conductive filler material comprises boron nitride.
18. (Previously Presented) The thermal interface material of claim 1, further comprising at least one additive.
19. (Previously Presented) The thermal interface material of claim 18, wherein the additive comprises a catalyst.

20. (Previously Presented) The thermal interface material of claim 18, wherein the additive comprises an inhibitor.
21. (Previously Presented) The thermal interface material of claim 18, wherein the additive comprises a rheological modifier.
22. (Previously Presented) The thermal interface composition of claim 19, wherein the catalyst comprises platinum.
23. (Previously Presented) The thermal interface composition of claim 20, wherein the inhibitor comprises an antioxidant.
24. (Previously Presented) The thermal interface composition of claim 21, wherein the rheological modifier comprises at least one solvent.
25. (Previously Presented) A coating composition comprising the thermal interface composition of claim 1.
26. (Previously Presented) A coating composition comprising the thermal interface composition of claim 18.
27. (Previously Presented) An electronic component comprising the thermal interface composition of claim 1.
28. (Previously Presented) An electronic component comprising the thermal interface composition of claim 18.
29. (Previously Presented) An electronic component comprising the coating solution of claim 25.
30. (Previously Presented) An electronic component comprising the coating solution of claim 26.
31. (Previously Presented) A semiconductor component comprising the thermal interface composition of claim 1.

32. (Previously Presented) A semiconductor component comprising the thermal interface composition of claim 18.
33. (Previously Presented) A semiconductor component comprising the coating solution of claim 25.
34. (Previously Presented) A semiconductor component comprising the coating solution of claim 26.
35. (Currently Amended) A method of forming a thermal interface material, comprising:

providing at least two siloxane-based compounds, wherein each compound has a different solubility parameter,

providing at least one inorganic micro-filler material, wherein the filler is coated with hexamethyldisilazane,,

providing at least one thermally conductive filler material, and

combining the at least two siloxane-based compounds, the at least one inorganic micro-filler material and the at least one thermally conductive filler material, such that a phase separation is induced between the at least two siloxane-based compounds.
36. (Previously Presented) The method of claim 35, wherein at least one of the siloxane-based compounds comprises a polysiloxane compound.
37. (Previously Presented) The method of claim 35, wherein at least one of the siloxane-based compounds comprises a hydride-functional siloxane compound.
38. (Previously Presented) The method of claim 36, wherein the polysiloxane compound comprises a substituted polysiloxane compound.

39. (Previously Presented) The method of claim 38, wherein the polysiloxane compound is substituted by a functional group comprising an alkyl group, an aromatic group, a halide group or combinations thereof.
40. (Previously Presented) The method of claim 38, wherein the substituted polysiloxane compound comprises an alkenyl-terminated polyalkylsiloxane.
41. (Previously Presented) The method of claim 40, wherein the alkenyl-terminated polyalkylsiloxane comprises a vinyl group.
42. (Previously Presented) The method of claim 41, wherein the alkenyl-terminated polyalkylsiloxane further comprises a methyl group.
43. (Previously Presented) The method of claim 39, wherein the polysiloxane compound comprises vinylmethyldimethylsiloxane, polytetradecylmethyldimethylsiloxane, polyoctylmethyldimethylsiloxane, decylmethyldimethylsiloxane, butylated aryloxy-propyldimethylsiloxane, octadecylmethyldimethylsiloxane, dimethyldimethylsiloxane or combinations thereof.
44. (Previously Presented) The method of claim 37, wherein the hydride-functional siloxane comprises methylhydrosiloxane.
45. (Previously Presented) The method of claim 35, wherein the inorganic micro-filler material comprises silicon dioxide.
46. (Previously Presented) The method of claim 35, wherein the inorganic micro-filler material comprises a powder.
47. (Previously Presented) The method of claim 35, wherein the inorganic micro-filler material comprises a flake.
48. (Previously Presented) The method of claim 35, wherein the thermally conductive filler material comprises a transition metal.

49. (Previously Presented) The method of claim 35, wherein the thermally conductive filler material comprises boron.
50. (Previously Presented) The method of claim 48, wherein the transition metal comprises copper.
51. (Previously Presented) The method of claim 49, wherein the thermally conductive filler material comprises boron nitride.
52. (Previously Presented) The method of claim 35, further comprising at least one additive.
53. (Previously Presented) The method of claim 52, wherein the additive comprises a catalyst.
54. (Previously Presented) The method of claim 52, wherein the additive comprises an inhibitor.
55. (Previously Presented) The method of claim 52, wherein the additive comprises a rheological modifier.
56. (Previously Presented) The method of claim 53, wherein the catalyst comprises platinum.
57. (Previously Presented) The method of claim 54, wherein the inhibitor comprises an antioxidant.
58. (Previously Presented) The method of claim 55, wherein the rheological modifier comprises at least one solvent.
59. (Previously Presented) A coating composition produced from the method of claim 35.
60. (Previously Presented) A coating composition produced from the method of claim 52.

61. (Previously Presented) An electronic component comprising the coating solution of claim 59.
62. (Previously Presented) An electronic component comprising the coating solution of claim 60.
63. (Previously Presented) A semiconductor component comprising the coating solution of claim 59.
64. (Previously Presented) A semiconductor component comprising the coating solution of claim 60.